TITLE OF THE ABSTRACT : A STUDY OF THE EXTENSOR TENDONS OF THE HUMAN HAND

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OBJECTIVES: i) To study the arrangements and morphometry of the extensor tendons under extensor retinaculum, middle of metacarpals and over metacarpophalangeal joint.

ii) To study the type and morphometry of intertendinous connections in the intermetacarpal spaces.

METHODS: 30 hands were used for this study. The number of tendons were identified under the extensor retinaculum (zone 7), over the middle of the shaft of metacarpals (zone 6) and over the metacarpophalangeal joint (zone 5). The width and the thickness of the tendons were measured in zones 6 and 7. The juncturae tendinum (JT) were identified and classified into Types 1-3 based on their morphological appearance. The length, width and thickness of the juncturae tendinum were determined. Categorical variables were presented as frequency and percentage. Mann-Whitney U-test was used for statistical analysis.

RESULTS: The most common distribution patterns of the extensor tendons were as follows: a single (93.3%) extensor indicis proprius tendon (EIP); a single (100%) extensor digitorum communis tendon – index (EDCI); a single extensor (80%) digitorum communis tendon – middle (EDCL) in zones 7 and 6; a double (63.3%) extensor digitorum communis tendon – ring (EDCR) in zone 6; an absent (90%) extensor digitorum communis tendon - little finger (EDCS); a double (93.3%) extensor digiti minimi tendon (EDM) in zones 6 and 5; a single (100%) extensor pollicis longus tendon (EPL) in zone 7 and a single (100%) extensor pollicis brevis tendon (EPB) in zones 6 and 5. EIP tendon had the greatest width of 3.50 mm in zone 7 and EDCR tendon had the greatest width of 8.87 mm in zone 6. EDCR tendon had the greatest thickness of 1.45 mm in zone 7 and EDCL tendon had the greatest thickness of 1.12 mm in zone 6. Among the JT, type 1 was seen only in the second intermetacarpal space, type 2 in 66.7% of hands in the third intermetacarpal space and type 3 in 66.7% of hands in the fourth intermetacarpal space. The thickest JT seen was type 3 in the fourth intermetacarpal space.

Key W*ords:* *extensor tendons; dorsum of hand; juncturae tendinum; hand surgery; tendon repair*